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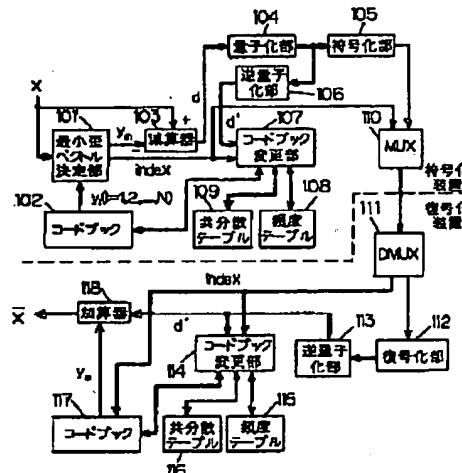
(54) VECTOR QUANTIZATION CODING/DECODING DEVICE

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(57) Abstract:

**PURPOSE:** To divide an input pattern into a vector quantization index and its differential signal to effectively transmit and record them and to sequentially optimize a vector quantization code book.

**CONSTITUTION:** A minimum distortion vector deciding part 101 outputs a key vector  $y_m$ , i.e., the minimum square error in  $y_i$  contained in a code book to an Input 64-dimentional vector ( $x$ ) and also outputs an index ( $m$ ) of the key vector. Then the part 101 quantizes the difference vector ( $d$ ) calculated by a subtractor 1-3 as  $d=x-y_m$  through a quantizing part 104 and outputs the quantized vector ( $d'$ ) together with the index data. Then a difference vector  $d''$  is calculated at an adverse quantizing part 106, and a code book changing part 107 changes the vector  $y_m$  based on the vector  $d''$  so as to approximate it to the vector ( $x$ ). Meanwhile the vector  $y_m$  is changed also at the decoding side synchronously with the coding side.



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